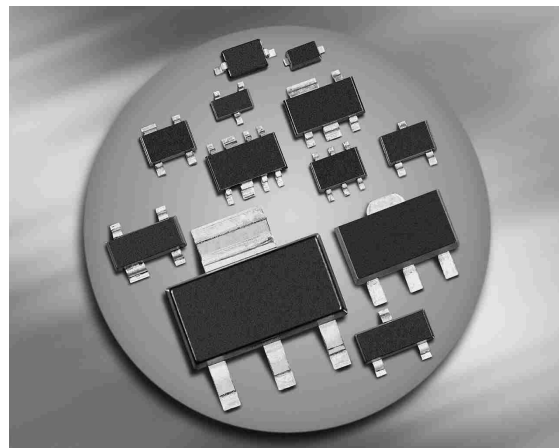
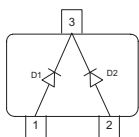


### Silicon Variable Capacitance Diode

- For FM radio tuner with extended frequency band 77MHz to 108MHz
- Designed for application requiring back-to-back diode configuration for optimum signal distortion and detuning
- High tuning ratio at low supply voltage (car radio)
- Monolithic chip (common cathode) for perfect dual diode tracking
- Good C- V linearity
- High figure of merit



### BB844



Type	Package	Configuration	$L_S$ (nH)	Marking
BB844	SOT23	common cathode	1.8	SNs

### Maximum Ratings at $T_A = 25^\circ\text{C}$ , unless otherwise specified

Parameter	Symbol	Value	Unit
Diode reverse voltage	$V_R$	18	V
Peak reverse voltage	$V_{RM}$	20	
Forward current	$I_F$	50	mA
Operating temperature range	$T_{op}$	-55 ... 150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 ... 150	

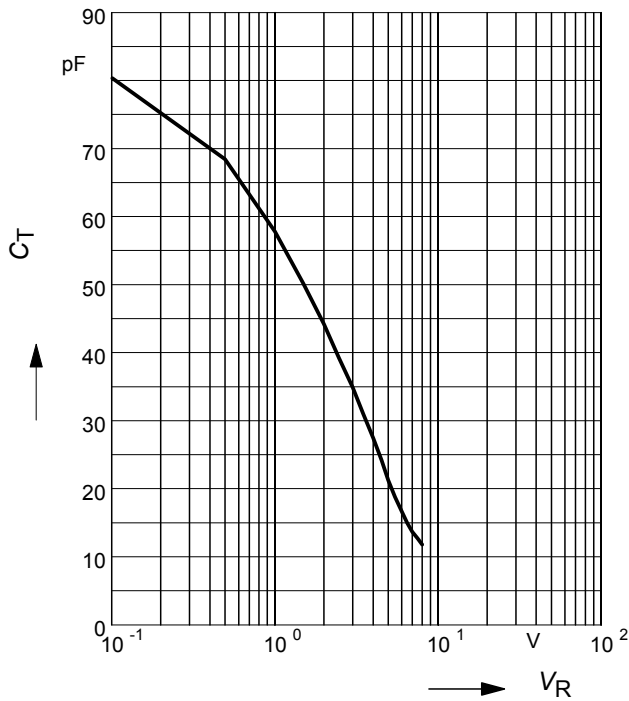
**Electrical Characteristics** at  $T_A = 25^\circ\text{C}$ , unless otherwise specified

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC Characteristics					
Reverse current $V_R = 16\text{ V}$ $V_R = 16\text{ V}, T_A = 85\text{ }^{\circ}\text{C}$	$I_R$	- - 	- - 	20 200	nA
AC Characteristics					
Diode capacitance $V_R = 2\text{ V}, f = 1\text{ MHz}$ $V_R = 4\text{ V}, f = 1\text{ MHz}$ $V_R = 8\text{ V}, f = 1\text{ MHz}$	$C_T$	42.5 25 10	43.75 27 11.5	45 29 13	pF
Capacitance ratio $V_R = 2\text{ V}, V_R = 8\text{ V}, f = 1\text{ MHz}$	$C_{T2}/C_{T8}$	3.2	3.8	-	
Capacitance matching <sup>1)</sup> $V_R = 2\text{ V to } 8\text{ V}, f = 1\text{ MHz}$	$\Delta C_T/C_T$	-	-	1.5	%
Series resistance $V_R = 2\text{ V}, f = 100\text{ MHz}$	$r_S$	-	0.28	-	$\Omega$

<sup>1)</sup>For details please refer to Application Note 047.

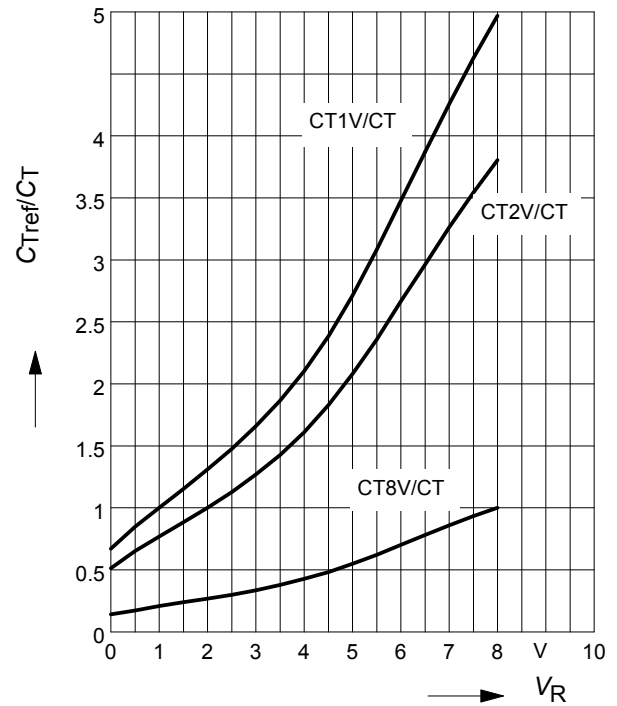
**Diode capacitance**  $C_T = f(V_R)$

$f = 1\text{MHz}$



**Capacitance ratio**  $C_{Tref}/C_T = f(V_R)$

$f = 1\text{MHz}$



**Temperature coefficient of the diode capacitance**  $T_{Cc} = f(V_R)$

